EDUCATION LIBRARIES BULLETIN

No. 2.

Summer 1958

Editor: Margaret Couch

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THE LONDON DAY TRAINING COLLEGE

by

Richard Goodings

The London Day Training College was opened in 1902. If we are to determine to what degree it represented a significant new venture or to assess its influence it is necessary first to examine the background of ideas and institutions concerned with teacher training already in existence when the College was founded.

In point of time the provision of schools always tends to precede thought about the training of teachers. Those concerned with Education during the first half of the nineteenth century were almost exclusively occupied in finding sufficient school places for large numbers of children. It was not until towards the middle of the century that it was at all generally perceived that the schools could enjoy only slight success so long as no intellectual, technical or moral standards were required of those recruited to teach in them. Kay Shuttleworth's farsighted scheme for a normal school was wrecked on the rocks of the 'religious difficulty'. But the long debate which preceded its demise served to awaken some awareness of the problem. In the following year the Archbishop of Canterbury conceded that "teachers should be trained, for the want of proper schoolmasters had been extremely felt". But rapture so excessively modified inevitably engendered little enthusiasm and for the next decade teachers continued too often to be drawn from the ranks of those whose idleness or incompetence unfitted them for other trades. Declining confidence in the monitorial system which had rendered trained teachers largely superfluous contributed to a change in opinion. By the time Robert Lowe was preparing to import some of the simpler principles of free trade into the sphere of education the idea was generally established that teachers in elementary schools should receive some sort of training. The colleges which grew up as a result of these forces sought to impart to their students an elementary knowledge of the subjects of the revised code combined with a few rule of thumb principles by which such information could be expeditiously passed to large classes of ill-disciplined children.

These developments affected the secondary masters not at all. Two reasons contributed to this result. In the first place the agitation for training had been based primarily on the need for educating the teacher himself and secondly the training colleges which resulted did not offer an example which the secondary masters saw any advantage in imitating. Graduate, often ordained, proud, exclusive and jealous of their freedom they turned in contempt from the low academic standards and the mechanical professional training and they shrank in horror from the childish discipline and the large degree of government control to which the colleges were obliged to submit. But their aloof disdain was increasingly assailed. During the next thirty years the debate on teacher training occupies a

mounting proportion of space in the educational books and periodicals. As the century wore on the persuasive advocacy of a number of men such as J.P. Morgan, J.L. Bryce, Oscar Browning, R.H. Quick, Joseph Payne and Joshua Fitch was reinforced by the work of a number of organisations such as the College of Preceptors, the Lyttleton Committee and the Women's Educational Union.

The interesting question then arises as to how the secondary masters were able to withstand all this pressure and hold the citadel for so long against the trumpet blasts and assaults of the reformers. They had in fact little difficulty in doing so. There were two reasons for this. Firstly opinion was largely on their side and consequently while it was the formidable task of the reformers to convert, the defenders of tradition were called upon only to reassure, their contemporaries. Secondly the case which they were able to put forward against training was undoubtedly both strong and convincing. In brief the secondary masters contended that by an acceptance of training they had nothing to gain but much to lose.

All training colleges offered a course in which academic instruction was variously blended with professional training. The plea for academic instruction could, by graduates, be plausibly ignored. The argument based on the need for professional training at least demanded some answer. The secondary masters in reply dismissed it as useless. The professional work of the colleges was in two broad divisions; theory of education and practical work in schools. From neither part the secondary masters contended could any good be expected to result. The principles of education could not be grasped far less assimilated from a hasty reading of the few handbooks necessary to pass the prescribed examinations. As for the practical work it was too brief and too artificial for the student to learn much about children, though they conceded that he might possibly gain a certain proficiency in the art of teaching inspectors and supervisors. In this matter a memory of the methods by which he himself was taught was sufficient in the young teacher. In any case background, character, resourcefulness, these were the factors that made a good teacher and they could be neither taught nor tested. In short what nature and nurture had combined to omit no master of method could hope to supply. Dr. Arnold had summarised the qualities he looked for in making appointments to the staff of Rugby "I want a man who is a Christian and a gentleman; an active man and one who has common sense and understands boys". There is little in this specification which could be expected to result directly from any formal system of pedagogical training; but most of his contemporaries and successors among the secondary heads would have subscribed to his views.

In these opinions the secondary teachers remained unshaken by the favourable comment earned by the obvious technical efficiency of the certificated masters. Indeed it must be said that this praise did the cause of training little good, for it was generally intolerably patronising and seldom of a sort that any self-respecting body would much relish.

No benefit was therefore to be expected from training but by accepting it the secondary masters would forfeit first their freedom and second their status. The loss of freedom was the simpler issue. The secondary headmasters were constantly asked to receive students in training into their schools and further to restrict appointments on their staffs to candidates with training. Both suggestions involved a loss of freedom. For the student of teaching did not enter the school alone, comet-like he trailed behind him a tail of inspectors, examiners and supervisors; a tail moreover peculiarly destructive of the autonomy of institutions with which it came into contact. They saw the student as a kind of Trojan horse, apparently harmless, attractive even, but in fact replete with armed men and women, fierce and magnificently equipped to destroy that independence which the secondary schools had defended so long. They did not resent the student but since there was no method of admitting him but excluding the motley retinue who would have trooped in behind him they regretfully but firmly closed their gates against him. An undertaking to appoint only trained assistants would have struck at the very root of the headmasters' independence; for it would have taken away from him the liberty to appoint as his assistants persons whom he judged to possess the qualities most needed to maintain and further the particular aims and ideals he cherished for his school. It would moreover have reduced the secondary heads to a position significantly similar to that of the French peasant before the revolution, burdened by a Gabelle and forced to ruin himself by the purchase of a commodity he did not want. The analogy might perhaps be pressed a little further. The spectacle of one group of men urging a programme of improvement through self-denial upon a second group must always incline the historian to a close examination of motives. The evangelical fervour of the elementary masters was undoubtedly partly prompted by a disinterested concern for the Educational progress of the country but there cannot have been entirely absent from their minds a clear appreciation of how much they too stood to gain from the success of their crusade.

This raises the problem of prestige. Strong though often only implicit in the opposition of the secondary masters to training was the fear that it would involve them in a loss of social status. Since the idea of training had developed first in connection with the elementary schools there came to adhere to it something of the lower class and charitable associations of those schools. Thus by rejecting training the secondary master avoided the risk of contamination by these ideas. He also retained unimpaired his amateur status. And nineteenth century opinion tended to agree with Aristotle in regarding amateurism as one of the essential marks of a gentleman and professionalism as suited only to slaves.

Other strands were interwoven also. If the vast pamphlet literature on the subject is any guide, a preoccupation with status was endemic among the elementary school teachers of the nineteenth century. They were not unaware that members of generally respected professions such as doctors and lawyers received prolonged specialised training in their crafts. Internal discipline was also an ingredient of prestige and the agitation for a teachers' register was partly an attempt to attain parity with these

professions. But also there seems little doubt that training too was demanded not wholly for its own sake but partly because it was one of the instruments by which the status of the elementary teacher might be raised.

Substance is lent to this belief when one notes how relatively light the literature of teacher training is on the side of theory and content. The landmarks in the development of training are the events of social and political history and not seminal books written on philosophic lines. It would be almost impossible to discuss the development of training in terms of the ideas that animated it for the theory and content of training has been singularly static and even to-day courses consist principally of elements which were put into them hurriedly and rather uncritically in the middle of the nineteenth century. It is surely significant that though logically one would expect a book about the training of teachers to deal primarily with the evolution of an idea or group of ideas, this is never the case and histories of teacher training tend to be written almost exclusively in terms of institutions. It is difficult to escape the conclusion that the advocates of training were principally concerned that a period of professional preparation should be made obligatory and only secondarily interested in the educational justification for such a step and what use should be made of the period when it was established.

But the value of training as a social elevator was seriously diminished so long as the secondary masters, the most generally respected section of the teachers, remained without it. All this was no less clear to the secondary masters. Yet from their point of view by accepting training they would link themselves with a movement which was partly undertaken to gain prestige and would therefore cast doubts on their own respectability. Also by doing so they would lose something of their identity and lessen the important gap which separated them from the elementary teachers. When Dr. Abbott, a supporter of training, was accused by one of his colleagues on the Headmasters' Conference with "wanting to degrade the teachers of our public schools to the level of certificated masters" there was clearly some justification for the reproach.

These doubts the direct appeals of the reformers were totally unable to dispel. But towards the end of the century the position of the secondary masters, impregnable to frontal attack, was eroded by forces only incidentally educational.

The first of these was the introduction of new methods of training elementary teachers. This in turn was the result of circumstance rather than conviction. Between 1870 and 1886 the number of pupils in grant aided schools rose from 1½ to 4½ million. The output of the 43 existing training colleges was quite inadequate to meet the need and meanwhile the pupil-teacher system was increasingly criticised. The problem was thus to increase facilities so that both a much greater proportion of teachers needed could be trained and at the same time to abolish or at least delay to a more mature age than 13, the system of in-service training. To this question,

among others the Cross Commission addressed its discursive but searching enquiries. The solution which emerged from its evidence was the Day Training College. Chief among the advocates of these was Dr. Morrison, Rector of the Free Church Normal School at Glasgow, who from experience had much to say that was both convincing and hopeful. By abandoning residence the Scottish colleges had been able to achieve a large output of highly trained students and to do so at 25% less cost than the English colleges. Recruitment was good since students who preferred to live at home were not deterred from undertaking training and further since the cost of board and lodging fell on the parent, the students tended to be drawn from a more prosperous class and to have better previous education than those attending residential colleges whose maintenance was fully borne on the consolidated fund.

Seductively attractive though these arguments were, the members of the commission were certainly not stampeded by them. Residence, they urged, had two irreplaceable advantages. For the student it afforded the invaluable stimulus of constant association with like-minded contemporaries and for the staff it provided opportunities not only for teaching the students but also for beneficially influencing their manners and morals. But the protagonists of the Day Colleges were able to show that where training institutions were concerned, these advantages, though hallowed by much repetition, were less axiomatic than was often supposed. A social intercourse exclusively restricted to potential teachers of almost identical background, interests and ambitions, far from being liberalising tended to produce those characteristics of narrowness, uniformity, timidity and professional self satisfaction which in the teachers forfeited both the affection and respect of the rest of the community. So also the morals and manners inculcated by preceptors themselves the victims of a similar system would, it was suggested, be conditioned by that over anxiety which results from brooding in a closed atmosphere upon dangers known only vicariously and be distinguished chiefly by intolerance and restriction of outlook. The rules enforced at that time in most residential colleges afforded convincing support for this view. The Commissioners, however, still hesitated. The advantages of residence they admitted might be illusory but surely the dangers of Day Colleges were real. "Do you not find", they asked Dr. Morrison, "that the system of having the students male and female, outside the college is attended with any moral danger". Their misgivings on hearing that men and women students left the college at the same time were only partially allayed by his assurance that they did so by different doors. Moving over to the offensive Dr. Morrison pointed out that the residential colleges did not obviate these perils but merely deferred and even aggravated them for the cloistral shelter of the college left the student ill prepared for, and peculiarly vulnerable to, these dangers when he or she finally and inevitably emerged from the protection of its walls. Thirty years before the Cross Commission Mr. Moses Angel had expounded to the Newcastle Commission the deleterious effects of what he termed "the semi-monastic nature" of the Training Colleges, thirty years after 1888 Sir Percy Nunn pointed out that the result was not only less mature individuals but also less effective teachers. It is indeed hard to explain the

continuing prevalence of the extraordinary idea that a dreary progression from school to seminary and back into school is an ideal form of preparation for those whose business fundamentally it will be to enlarge the limited experience of children by unfolding to them something of the richness, the fulness and the variety of life.

The Commission was divided but necessity was on the side of the minority. The Code of 1890 provided for Day Training College and by 1900 there were 16 of them with over 1300 places. The results were important. The new colleges gave greater freedom to the students and they were situated in large cities. It was thus possible for the first time to bring the business of teacher training into some sort of organic relationship with the universities. At Edinburgh and St. Andrews education had already entered the universities as an academic subject and in the next decade chairs in education were tentatively established at certain English universities. The foundations for a bridge between college and university were thus laid. Non residence and the university connection combined, represented a break with the old traditions and gave to training an enhanced status, an academic dignity and a broader basis. The effect was to destroy a large part of the case of those who opposed training for secondary teachers.

This undermining of their position occurred at a time when other forces were acting towards a change in opinion. At the educational level, science, taught experimentally in accordance with the principles of Herbert Spencer, was finding its way into the secondary curriculum. This resulted in a shift of emphasis from the textbook to the teacher. The knowledge derived from a degree course ceased to be sufficient. The untrained graduate might teach Latin Grammar successfully but he became a danger in the classroom once it was agreed that children should be encouraged to conduct scientific experiments. The work of the Froebel Society and the advocacy of heuristic methods by Professor Armstrong and others fostered the spread of the new techniques to the traditional subjects.

Meanwhile outside the schools a change was taking place in the generally accepted political philosophy. Towards the end of the century Hegel secured an increasing number of followers in England of whom Carlyle was probably the most articulate and T.H. Green the most thoughtful. A belief in laissez faire was increasingly relinquished in favour of the doctrines of Neo-Kantism and the result was to draw critical attention to the administrative chaos which surrounded the secondary schools. Then too the manufacturing classes to whom metaphysics made small appeal were converted to a similar view through admiration for the practical efficiency of Prussian organisation and a realisation that industrial pre-eminence could only be maintained by adopting the disciplines of industrial society and a much wider dissemination of technical skills through all levels of the class structure. Factory owners whose knowledge was restricted to the classics were becoming as obsolete as workers who could not read. Change was thus demanded on practical grounds precisely at a time when it was likely to be conceded for theoretical reasons. In consequence though the Cross Commission had recommended Day Colleges specifically for elementary teachers the Bryce Commission suggested that they offered an example from

which the secondary schools could usefully profit. A committee set up in 1896 which included representatives from all responsible bodies concerned in secondary education accepted the principle of training and advocated an organisation, which was basically a day college closely associated with a University.

The scene was clearly set for some bold pioneer to give practical expression to the ideas thus set forth. It was a singularly happy coincidence that developments during the decade preceding 1902 had placed two strong and enlightened bodies in a position to co-operate in just such an undertaking. These were the L.C.C. and the University of London. Independent changes which had taken place in the organisation of these two enabled them to share harmoniously in the establishment and guidance of the new college. In them it possessed a unique educational heredity of inestimable value.

[To be continued]

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THE DEPARTMENT OF EDUCATION LIBRARY, WELLINGTON, NEW ZEALAND

by

Dr. G.E. Bell
(Librarian, The Department of Education Library)

1. PURPOSE OF LIBRARY AND EXTENT OF SERVICES

The Library of the New Zealand Department of Education (corresponding to the Ministry of Education in England and Wales) has been in existence since 1947, though there was previously a small and unclassified collection of books and pamphlets covering a few shelves.

When the present Librarian was appointed in 1947, her first task was to catalogue the existing material, to reorganise the whole set up, and to build up a comprehensive stock which would serve the main users of the Library.

As the interests of these users range over a very wide field, although nearly all of them are officers of the Department, the selection had to be, and still is, a very wide one and not necessarily confined to educational books in the more restricted sense of the work. A brief enumeration of the Library's main clientele will make it clear how many subjects have to be covered.

The Department's main branches, which have to be serviced regularly, comprise: Architects' and School Buildings' Division, Art and Crafts, Child Welfare (with 12 sub-branches), Islands Education, Physical Education,

School Publications, Vocational Guidance Centres (4 branches). In addition, there is a large office of the Department in Auckland, a great number of Primary School Inspectors (attached to 10 Education Boards in different towns) and a team of Post-Primary Inspectors in Wellington, Auckland, Hamilton and Christchurch, and Inspectors concerned with Technical and Vocational Education, six Psychologists, the Supervisor of Teaching Aids (including films), the Supervisor of Pre-School Education, the Principals of the two Schools for the Deaf, of the Special Schools (Backward Children) and of the Training Centres (Juvenile Delinquents). Furthermore, there is the administrative staff (professional and non-professional, i.e. clerical) attached to the Department and its various sub sections.

Teachers and schools are generally outside the scope of the service, but on occasions, e.g. on the recommendation of an Inspector or other officials they are also provided with reading material for a special purpose. Generally, they are served by the five Training College Libraries and the School Library Service of the National Library Service which supplies the greatest bulk of books to schools.

University students, particularly those taking a degree in Education or attending the School of Social Science, make occasional use of the Library though none of them is on "research" level. They mainly are after "set books" which are unobtainable at the University Library either because they are out on loan to other students or because they are too specialised to be included in a College Library.

The Department's Library is only rarely used by research students, but assistance is given where necessary. Most of the work of this kind is done by the New Zealand Council for Educational Research independent of the Department but with whom close collaboration is maintained. The Librarian's research is limited to the drawing up of shorter or longer bibliographies needed for various purposes or to "digging up" information as an answer to reference questions. These are not only of the ordinary and quickly answerable kind, but are often abstruse and need prolonged work in order to find the correct answer. This applies particularly to early New Zealand educational history which is not well documented and to questions of "parity" in educational standards of new settlers from many countries.

At present, the Librarian has two assistants, one with a degree in education and the other training for the Certificate of the New Zealand Library Association. In addition, there is a part-time typist mainly employed for the Library Bulletin and sometimes for the typing of reports, correspondence etc.

Within the given framework, the Librarian's task is to satisfy, as far as possible, all these various and different requirements. These can be roughly divided, but only very roughly, into the following subjects:
a) All branches of education and psychology (but no test material);
b) Subject fields of different inspectors, including: English and modern

foreign languages (French, German), history, literature, art, geography, social and natural sciences, sociology, etc. (Straight forward school textbooks are generally excluded except in cases where a new publication of this kind is of interest): c) Technical subjects: wood and metal work, automobile engineering, the building trades and so on. (These are mainly textbooks): d) Physical Education including anatomy and physiology: e) Social Welfare, including juvenile delinquency, vocational guidance: f) Special Education (physically and mentally handicapped): g) "Marginal" literature, i.e. books not falling into any of the above categories but being "educational" in the sense that every "educated" person should take cognizance of and be stimulated by them in a general or specific way.

This latter point is of importance as the Librarian is not only a mere "custodian of books", but is also expected to bring the book to the reader or as it often happens, the reader to the book. There are, of course, as in all libraries avid readers and indifferent ones. Considering the wide scale of library users who range from the Departmental Head (The Director of Education) who takes a lively interest in the Library to clerks, typists and liftmen, the choice of reading material has obviously to be done with discrimination. As a sociological sidelight which illuminates the peculiar structure of New Zealand society, it is perhaps worth while mentioning that it is by no means the professional class only who reads the "U" books and the minor fry the "non-U" literature. It can even happen that it is the other way round. The task of "keeping in touch" is made more difficult by the fact that many of the library clients are far from Wellington, some more than 600 miles away. The smaller the place the more important the service, although the County Library Service does excellent work in even the remotest regions, but naturally it cannot cater for the specialist.

To keep in touch with readers within and outside the capital, various devices are adopted; among others for instance personal visits by the Librarian to talk things over and to explain the services the Library can provide.

2. LOAN COLLECTIONS

These go to the primary school inspectors attached to the 10 New Zealand Education Boards (superficially corresponding to the English L.E.A. though their functions are, administratively speaking quite different). According to size there are two to twelve departmental inspectors in each of the ten centres and every one is specially interested in a particular field, e.g. Social Studies, Physically Handicapped, Backward Readers, etc. The books in the loan collection which is issued for three months are selected accordingly. A similar procedure is adopted for the twenty Child Welfare District Offices.

Loan Collections for a shorter time also go to Refresher Courses held in the summer holidays and during the year on various occasions.

3. LIBRARY BULLETIN

One of the most important means of keeping readers informed about new material is the issue every two months of a library bulletin called "Nga Pukapuka" (the Maori word for "Books"). It generally consists of eight parts: "Librarian's Comment", a general article in form of a "Leader" dealing with educational and related problems (the last one for instance was called "Education and Sputnik"); "A Miniature Bibliography", tied up whenever feasible with the preceding article; a page called "Per Chance to Read" (reminders of books on the shelves which might have been missed so far). This is followed by "Books Previously Listed" but not reviewed in former issues; the section on "Pamphlets, Periodicals and other Fugitive Material" mentions new pamphlets, etc. which have come in - arranged by subjects in alphabetical order - periodicals recently subscribed to and also excerpts from current periodical literature with short comments, selected for their various interests.

Occasionally there is a "Letter to the Editor" and, generally - for light relief - "Miscellany" with odd bits and ends (similar to the New Stateman's "This England"). "In the Margin" speaks briefly of current cultural events (exhibitions, lectures, concerts, etc.). The most important part "Books Received Since the Last Issue of Nga Pukapuka" gives a complete accession list. Some books are only just listed, others briefly annotated and many of them reviewed at length. Some of these reviews are written by the Editor-Librarian, but a great number are contributed by others, subject experts in particular fields. This has the double advantage of submitting the reviewer in question to an intensive study of the book and to make it known to a larger reading public. Each number of N.P. has a request slip attached in the back and this device brings gratifying results; up to 100 books being asked for after the publication of a bulletin of which about 400 copies are circulated. The monthly issue of books (including pamphlets, but excluding periodicals) varies; its average is 575. During 1957, 7,000 books were issued.

4. PERIODICALS

These journals are another means of information about current trends in education and other subject fields, and 280 publications (some on an exchange basis) are received at present. Their circulation in spite of heavy duplication of the most important ones is very slow and difficult, as so many readers are outside the main centres.

5. THE VERTICAL FILE

As in most libraries, the V.F. supplies additional information difficult to come by in larger publications. It is housed in "Suspension folders", alphabetically arranged by subject, and therefore self indexing. There are about 500 different headings and the material varies in length from newspaper clippings to substantial booklets of 50 pages or more. A particular large section is about education in different countries

(Afghanistan to Zanzibar); it contains mainly official reports, but also miscellaneous information collected from various sources.

6. CLASSIFICATION AND CATALOGUE

The Library uses the Dewey Classification and has:

(a) a dictionary card catalogue arranged by author, title and subject, including indexed articles from periodical literature. Although the library receives American, Australian and English Education Indexes, experience has shown that the particular needs of the department warrant a great deal of additional indexing of articles culled from the periodicals currently received. "Analytics" from books are also made whenever this work seems useful for obtaining additional information.

The catalogue cards are very detailed, giving all relevant particulars as many books are out on loan to subject experts for an indefinite period, a fact which was not mentioned previously. It is therefore necessary to have all pertinent information available even if the books are not on the shelves for some considerable time.

(b) a shelf list.

(c) a mimeographed catalogue arranged alphabetically by subject with supplements annually published.

Subject headings are taken from Sears-Frick's "List of subject headings" for general topics, and for the educational ones from Pettus's "Subject Headings in Education" occasionally supplemented by entries in Wilson's Education Index.

7. BOOK SELECTION AND ORDERING

As previously pointed out, most of the books are selected from reviews in periodicals which take 6-8 weeks to arrive in New Zealand. In addition, BNB and publishers' catalogues are studied and occasional direct requests from readers are also taken into consideration.

The time lapse between the publication of a new book and its availability in the library is often considerable, owing to the remoteness of New Zealand and to the fact that Government Departments have to place all their book orders, including "standing" ones for journals and other serials, through the National Library Service. This obligation tends to slow up the procedure considerably, so that it will take at least 6-8 months (for orders from the United States even longer) until the books become available. This is a great drawback and in some cases really much more than just an inconvenience.

8. INTERLOAN

New Zealand possesses a very well organised and efficient interloan service in which Public and University Libraries participate as well as very many specialized libraries. It is based on a Union Catalogue and weekly "Book Resources" lists for publications not traced in the former. Thus, small libraries, such as the Education Department's (which contains only about 10,000 volumes), can obtain a great deal of additional books at least those published in English; foreign language publications are very much more difficult to come by.

9. REFERENCE WORK

The library is called upon to answer a fair amount of reference questions which again range from fairly simple ones (even including spelling) to very intricate and hidden information on a particular subject (not necessarily strictly "educational"). Occasionally translations (French, German, Italian) and résumés of articles have also to be supplied.

10. CONCLUSIONS

The foregoing notes, sketchy as they must necessarily be, will, it is to be hoped, give some idea of the activities going on in a small "antipodean" library. It prides itself, perhaps unjustly, to be "alive" and it believes that one of its responsibilities is not only to have information on tap and the necessary supply of books, but also to prod the reluctant ones into reading and to stimulate further those who don't need any prodding. All these tasks are made easier for the Librarian by the very happy professional and personal relations with her staff and with all those who visit and use the Library of the Department of Education.

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Dr. Bell wishes to make an exchange for a few months with a librarian working in or near London. If you are interested please write direct to her.

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+ EDUCATION FOR SCIENCE AND INDUSTRY IN ENGLAND:

A BRIEF SKETCH OF ITS DEVELOPMENT

by

Dr. C.W.J. Higson
(Librarian, University of Leicester Institute of Education)

Training within industry rests on very old foundations, but education for industry and for industrial research given in outside institutions is mainly a development of the last 100 years, and it is interesting to see how often the problems of to-day have already occurred: - shortage of teachers - fear of specialization - the spur of foreign competition - are recurring features.

It is broadly true to say that all medieval education was vocational, and at the same time liberal. Within the craft, the apprentice learnt both the mysteries and the morality of his craft from his master. At the university level the basic curriculum of the seven liberal arts (which included the sciences of arithmetic, geometry and astronomy) was followed after graduation by specialization in one of the professional faculties of divinity, law or medicine. With the age of discovery there developed a considerable amount of education for the applied science of navigation, as can be seen from a study of Eva Taylor's important book on the Mathematical practitioners of Tudor & Stuart England, with its long list of mathematics teachers. Nevertheless these were nearly all private teachers, and organized education resisted the introduction of science teaching, though theorists from at least as far back as Sir Thomas Elyot in the 16th century advocated the inclusion of science in the curriculum.

The organization of science in England is often held to date from the foundation of the Royal Society, which began as a private club about 1645, and was given a Royal Charter by Charles II in 1662. Even in the 17th century, however, science teaching was generally provided by private tutors. A letter written in 1700 by John Wallis says that at Oxford there were unofficial teachers for physics, chemistry, anatomy, botany and modern languages.

In the 18th century many of the Academies set up for dissenters did include science in the curriculum, more especially those instituted by

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+ An address given to the North Midlands Group of the Reference and Special Libraries Section of the Library Association.

Unitarians, and a few of the old grammar schools did so also, though most were prevented, until the Grammar Schools Act of 1840, from varying the classical curriculum prescribed by their foundation charters. The public schools largely ignored science. At Eton, at the beginning of the 19th century, the curriculum consisted of classics with a little divinity, and mathematics and French as "extras" to be taken on half-day holidays.

With the Industrial Revolution, the rise of the middle-classes and the development of an urban proletariat made the need for some kind of popularisation of science more apparent. Both the Society of Arts, founded in 1754 "for the encouragement of arts, manufactures and commerce in Great Britain", and the Royal Institution, founded in 1799, made some attempt at instructing the hand workers, but the great day of the Society of Arts did not come until much later, and the Royal Institution soon abandoned its teaching of working men, to concentrate on its research laboratory and library. A great effort was made by the Mechanics' Institutes, which by 1826 had spread all over the country, from Aberdeen to Plymouth, but they eventually failed, mainly because of the insufficient basic education of the classes for which they catered. Local and national scientific societies, and the newly founded universities of London and Durham catered for the middle classes. University College, London, was founded in 1826. Its fees were moderate, its degrees open to all, and its curriculum included the progressive sciences neglected at Oxford and Cambridge, which concentrated on mathematics and theoretical physics. (In parenthesis it is interesting to note that at Cambridge a candidate for the Classical Tripos, started in 1822, had to have passed already in the Mathematics Tripos.) Prospective students at London in the early years were advised to take a 4 years' course of studies, comprising classics, mathematics, physics, chemistry, economics, philosophy and jurisprudence. This, it was thought, would ensure a liberal education. In addition two alternative types of course were provided, first: a professional course, in law, medicine or engineering, and second: what was called an "ornamental accomplishments" course, which included foreign literature, botany, geology and zoology.

The Great Exhibition of 1851, initiated by members of the Society of Arts, roused a feeling that British industry, though it gained many prizes, would have to take active steps to meet foreign competition, and the government at last woke up to the necessity for some sort of organized training in science. A Government School of Mines was inaugurated in 1851, and in 1853 the privately founded Royal College of Chemistry was amalgamated with it. The profits of the Great Exhibition were used to purchase a large estate in South Kensington, where it was hoped to establish a technical university, museums and art galleries. In 1855 a science division was added to the Department of Practical Art, set up in 1852 under the Board of Trade, and the name was changed to the Department of Science and Art. When the Education Department was constituted in 1856 the Science and Art Department was transferred to it from the Board of Trade. Examinations in scientific and technical subjects were organized by the Department, and grants were available for schools presenting successful candidates. For

the first few years no results were to be seen, and it gradually dawned on the official mind that science teachers would be necessary for the scheme's success. Accordingly in 1859 it instituted a special examination for science teachers, but, by the time teachers had succeeded in qualifying, the school managers had lost interest, and the teachers had difficulty in finding suitable posts. However, progress was made, although the system of paying grants for successful candidates led to cramming. A 16 year old Bradford boy passed in 19 subjects in May 1888, at least three others passed in 18 subjects, and many in 16 or 17. Officers of the Royal Engineers provided most of the organisers of the examinations and inspectors of the science schools, as they were the only body of men trained in applied science. (We may note in passing that enthusiasm for the examination system was a general feature of the 1850's.)

After the burst of official activity following the 1851 exhibition came a period of relaxation of effort, until the Paris Exhibition of 1867 caused something of a panic, with the realisation that British industry was being outclassed by that of other countries, particularly by France, Prussia, Austria, Belgium and Switzerland. Observers attributed this to their systems of technical education. Ambassadors and consuls abroad were instructed to report on technical education in the various countries, and a Parliamentary select committee was set up to investigate. The committee reported that "A hindrance second only to the defective elementary education of the pupils, is the scarcity of science teachers, and the want of schools for training them." The committee recommended good elementary instruction for the working classes, better secondary education, and aid for advanced colleges of science.

A Royal Commission to investigate scientific instruction and the advancement of science was set up in 1871, under the chairmanship of the Duke of Devonshire, and this carried out a very thorough survey of the whole field. The Devonshire Commission found that secondary education needed radical reform, and that the State should set up laboratories and increase research grants to private scientists. It also thought that education in science at the universities should not be specialised, but that some literary culture was desirable for scientists, while some science should be taught to classicists. A few grants were raised, a few more public schools and grammar schools introduced some science, and in the elementary schools elementary science became part of the school curriculum in 1871, as a specific subject, that is, one taught to individual, selected scholars in Standards IV to VI. Courses for science teachers, begun at South Kensington in 1869 at the Royal School of Mines, eventually developed into the Normal School of Science.

A trade depression in the later 70's and early 80's revived fear of foreign competition, especially that of Germany, and some study was made of the German system of technical education. Yet another Royal Commission was set up. (Royal Commissions on education proliferate in the 19th century.) This one was on technical instruction, and sat from 1881 to 1884, during which time it investigated education in a number of foreign countries. It

did a very thorough job, visiting factories as well as schools, even though the commissioners had to pay their own expenses. They found that nowhere in Europe was there such an extensive system of evening classes in science as that undertaken in this country by the Department of Science and Art and the City and Guilds Institute, but that German primary and secondary education were much better than ours. Germany had also had state technical colleges since the 1820's. The commissioners also noted that many of our useful scientific institutions suffered from inadequate funds, and they felt that the value of scientific training was not appreciated in England. Although there were now a number of trained chemists in industry they were employed as testers and analysts, not in research, and there was no applied science laboratory in England, such as already existed in Switzerland. The Commission recommended an extension of manual, technical and scientific instruction in elementary and secondary schools, and also that local authorities should be empowered to establish and maintain secondary and technical schools. As a result of the report, and of subsequent propaganda, the Technical Instruction Act was passed in 1889, giving the newly constituted county councils and urban sanitary authorities the power to devote the proceeds of 1d rate to providing and aiding facilities for technical education. In the following year the Local Taxation Act handed over to them a large sum from the customs and excise duties to supplement the rates for the purpose. This grant was popularly known as "whisky money".

Meanwhile the foundation of the provincial university colleges had greatly extended the opportunities for higher education in science and technology, and the older universities were enlarging their science curriculum. An Honours School in Natural Sciences had been inaugurated at Oxford in 1850, the Natural Sciences Tripos at Cambridge in 1851, and science degrees at London in 1858. The Clarendon Laboratory at Oxford was begun in 1868, and the Cavendish at Cambridge in 1871, but these proved very expensive and beyond the means of some of the university colleges. The first government grant to the English university colleges, made in 1888, amounted to £15,000 between them, just about equalling the annual Swiss federal grant to the Zurich Polytechnic alone. Opportunities for training in research methods were still limited, and many students went to German universities, where, in chemistry at least, research was essential for a degree.

In the field of elementary education a further development came through a change in the Educational Code in 1890, which made elementary science a class subject, as opposed to a specific subject taught to selected individuals. The result was once more a shortage of science teachers. Fortunately, in 1890 also, the Day Training Colleges attached to some university colleges were granted official recognition, and the number of students greatly increased. In 1904 science became a compulsory subject in training colleges, and every college was required to have a suitably equipped laboratory.

The Education Act of 1902 at last empowered local authorities to provide secondary education, and many of the technical institutes were transformed into secondary schools, following a 4 year course approved

by the Board of Education, and including mathematics and science, both theoretical and practical.

In industry a notable land-mark was the establishment in 1891 by the United Alkali Co. of the first industrial research laboratory in this country, with a staff of 6 chemists, a handyman and a confidential clerk. The creation of the National Physical Laboratory was authorised in 1897.

By the end of the 19th century the number of trained scientists had greatly increased, but the chief opportunities for employment still lay in the teaching profession. +Cardwell has estimated that in 1903 there were some 550 graduate chemists engaged in the various teaching services, compared with some 200 in the chemical industry. Thus the great expansion occurred through the educational system, and the professional scientists were produced before industry showed itself ready to use them.

Shortages and deficiencies felt during the 1914-1918 war brought another step forward with the creation of the Department of Scientific and Industrial Research, and the various research organisations developed in conjunction. In technical education a notable step was the institution of National and Higher National Certificates during the 1920's and 1930's. By the end of World War II both government and industry had become convinced that applied science was an essential ingredient of economic security. The scientist's employment picture has now completely changed. 60% of our 6th form pupils are reading science, and this figure is expected to rise to 75%, but once again the old problem of the shortage of science teachers and technical teachers has arisen. Until the setting up of the emergency training colleges after the War, there was no provision for the training of technical teachers - now the three colleges for this purpose are to be enlarged, and students' grants increased. Russian achievements have become the bogey that German ones at one time were, and it is the Russian educational system that is being studied. This study only reinforces the argument, that has been put forth again and again, by royal commission after royal commission, that higher scientific and technological education must rest on a broad foundation of general education, and that encouragement of the whole educational system is necessary, if research workers are to be produced in adequate numbers.

+Cardwell, D.S.L. The organisation of science in England. 1957.

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A SELECT LIST OF BOOKS AND PAMPHLETS ON TECHNOLOGICAL EDUCATION

Author	Title	Publisher	Date
	Asian Conference of Experts on Vocational and Technical Training. Introduction. Reports 1-4.	Singapore	1949
Barker, E.	Scientific and technological education: an essay.	S.C.M.	1957
Bibby, C.	T.H. Huxley and education.	Reprint from Journal of the Royal Society of Arts, vol. 104, no. 5986	1956
Cardwell, D.S.L.	The organisation of science in England.	Heinemann	1957
Caribbean Commission	Development of vocational education in the Caribbean.	Trinidad	1953
Conservative Political Centre	Technical education.	C.P.C.	1956
Denning, A.	The development of the New South Wales University of Technology.	Assn. of Technical Institutions	1952
Derrick, R.A.	Vocational training in the South Pacific.	O.U.P.	1952
Dobinson, C.H.	Technical education for adolescents.	Harrap	[1951]
Federation of British Industries	Windsor conference on industry and technical colleges.	F.B.I.	1958
Gt. Britain. Colonial Office	A survey of vocational technical education in the Colonial Empire.	H.M.S.O.	1940
Gt. Britain. Colonial Office	Report of the mission on higher technical education in the British Caribbean.	H.M.S.O.	1957

Author	Title	Publisher	Date
Gt. Britain. Ministry of Education	Education for management: management subjects in technical and commercial colleges.	H.M.S.O.	1947 repr. 1957
Gt. Britain. Ministry of Education	Higher technological education. (Percy Report).	H.M.S.O.	1945
Gt. Britain. Ministry of Education	Technical education.	H.M.S.O.	1956
Gt. Britain. Scottish Education Department	Report on the teaching of technical subjects in secondary schools.	H.M.S.O.	1957
Gt. Britain. Central Office of Information	Reference pamphlet no. 21. Technological education in Britain.	H.M.S.O.	1957
Gt. Britain. Ministry of Labour and National Service	Training for skill: recruitment and training of young workers in industry.	H.M.S.O.	1958
Gt. Britain. University Grants Committee	A note on technology in universities.	H.M.S.O.	1950
Harlow, F.J.	Technical education in Mauritius.	Govt.Printer	1955
Hertfordshire County Council Education Committee	Report on secondary technical education submitted to the County Education Committee on 31 January 1955.	Hertfordshire Education Committee	1955
Hong Kong Technical Investigating Committee	Report on technical education in Hong Kong.	Cyclostyled	1953
International Labour Office	Vocational training in Latin America.	I.L.O. Geneva	1951
Keir, Sir D.L.	Technological education in the overseas territories.	Assn. of Technical Institutions	1956

Author	Title	Publisher	Date
National Conference between Industry & the Technical Colleges	Report of the second national conference between industry and the technical colleges, 15 May 1957.	F.B.I.	1957
National Institute of Adult Education	Liberal education in a technical age: a survey of the relationship of vocational and non-vocational further education and training.	Parrish	1955
Sierra Leone, Colony of	Survey of technical and further education. Sierra Leone and Gambia.	Govt.Printer	1949
Singer, C. ed. and others	A history of technology, vols. 1-4.	Clarendon Pr.	1954-58
	Technical education and vocational training in East Africa. Report of a mission on behalf of the East African governments.		1948
Thibert, M.	Training problems in the Far East. Report on the technical training in the Far East.	International Labour Office	1948
Thorp, W.H. and Harlow, F.J.	Report on a technical college organisation for Nigeria.	Govt.Printer	1950
Turkey	Technical education for men in Turkey.	Ankara	1951
Uganda	Technical and commercial education in Uganda.	Govt.Printer	1954
Union of South Africa	Report of the Commission on technical and vocational education.	Pretoria Govt. Printer	1948
Unesco	Education in a technological society.	Unesco	1952
U.S. Dept. of Health, Education, and Welfare. Office of Education	Technological advances and skilled manpower: implications for trade and industrial education.	Washington Printing Office	1956

Author	Title	Publisher	Date
Venables, P.F.R.	Technical education.	Bell	1955
Venables, P.F.R.	Trends in technical education.	Manchester Statistical Society	1955
Warren, H.A.	Technical education.	S.C.M.	1957
West Indies. Development and Welfare Organisation	Memorandum on technical education in the British Caribbean.	Trinidad Govt. Printer	1956

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THE LIBRARY OF THE INSTITUTE OF PEDAGOGICS

by

O.K. Kyöstiö
(Librarian, Institute of Pedagogics)

The Library of the Institute of Pedagogics, the central library for pedagogics in Finland, is at Jyväskylä in Central Finland. The population of the town is not large, but its educational traditions are remarkable.

The Institute of Pedagogics was founded in 1934 for the training of primary school teachers on an academical basis and for the promotion of pedagogical research work. In developing the training of teachers the Institute carries on the traditions of its predecessor, the Seminar (founded in 1863). It is probable that the activities of the Institute will be extended to include the training of secondary school teachers in the nearest future. This would be a partial realisation of a long-deferred plan for the University of Jyväskylä.

These different interests are clearly noticeable in the selection of books and the activities of the Library of the Institute (JKKK). In 1912 the library was founded on a scientific basis for the needs of the future university as then conceived. One of its principal aims was to be the nearest approach to a complete collection of Finnish national literature. In 1919 the library obtained - like the three university libraries of the country - an almost complete free copyright, which has enabled the library to acquire a comprehensive collection of Finnish literature representing many different fields (250,000 volumes).

When the Institute of Pedagogics was founded, the scientific library from being possessed by the University Society of Jyväskylä came to belong to the Institute. The library of the Seminar, containing old pedagogical literature among other things, was affiliated with JKKK. After this the library has aimed at becoming the central pedagogical library of the country - apart from containing a complete collection of national literature. The literature on pedagogics, psychology and special education is fairly comprehensive. The foreign periodicals available in the Reading Room amount to 161.

The increase in the books obtained from abroad is based, to a great extent, on exchange relations, initiated particularly with Scandinavian institutions. The exchange system is greatly facilitated by the publications of the Institute and the University Society; among them the most important are the series Acta Academiae Paedagogicae Jyväskyläensis (1 publication so far) and the periodical paper Kasvatus ja koulu (Education and School), published 6 times a year. Both of them contain summaries in English, German or French. The Library is deeply interested in establishing exchange relations with the corresponding institutions in England.

JKKK is, moreover, a general library in the field of humanities. With its 325,000 volumes it is the fourth biggest of all Finnish libraries. It contains fairly large collections of philology, literary history, history, and philosophy. Being the only scientific library within a vast area, it is obliged to satisfy the needs of secondary school teachers, clergymen, medical doctors, etc., to a very great extent, not to speak of the teaching staff and students of the institute itself. The inter-library loans have increased, too. In 1956 the number of the persons who consulted the reference library amounted to 6279. Books lent home or charged for the desk numbered 10,417.

The paucity of the library staff (2 ordinary, 2 extraordinary, and 3 temporary librarians) is the reason for the delay of the development of systematic cataloguing and documentation.

The library will soon move to its new premises, planned by the world-famous architect, Alvar Aalto. The new library will house 60 reading seats in the reference room and in the research cabinets in addition to about 11,000 yards of shelves for books.

A catalogue of the acquisitions of the library is published 3 times a year and sent to other libraries and to anyone interested. The library is also included in the Supplement Catalogue of the Finnish scientific libraries.

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THE DOCUMENTATION CENTRE, EDUCATION CLEARING HOUSE, UNESCO

by

Benjamin T. Pierce
(Librarian, Education Clearing House)

The Documentation Centre is an integral part of the Education Clearing House of Unesco. It houses a current collection of approximately 35,000 items on education made up largely of official documents and reports coming from both local and national education authorities all over the world. There are also publications which are non-official bearing upon experiments and research studies as well as commentaries on existing education facts in different parts of the world. The collection is not historical or archival in concept and materials which are superseded, either by more recent work in the field or by new Unesco programme needs, are no longer kept on the shelves after they have outlived their usefulness. The one exception to this rule of thumb are the official reports of Education Departments and Ministries. As complete a collection of these as possible is kept permanently.

The immediate purpose of the Centre is to document the programme of Unesco and to meet the needs of Member States of the Organisation. To comply with these two goals the Centre not only maintains its basic collection of documents but publishes bibliographies and studies on various aspects of education.

To keep the material in the collection up-to-date there is a journal scanning programme in force which involves most members of the staff. 300 education journals are circulated to the staff according to language ability and field of interest. The staff member looks for important articles, news of conferences, seminars and meetings, newly formed organisations, new publications, and bibliographies in the field of education. The results of such scanning is referred weekly to a small committee which takes the appropriate action needed in each case. The articles which are of importance to the work in progress are catalogued and cards put into the file immediately. Letters are written to the bodies responsible for the conferences, seminars and meetings which are to take place and which have taken place asking for working papers or reports as the case may be. The newly formed organisations are written to asking for a statement of purpose or other such prospectus. The new publications signalled by the scanners are ordered for the collection, and the bibliographies are scanned in turn by the committee and the important items found are ordered and the bibliography catalogued if it be of sufficient stature.

The new publications which come in constantly as a result of the ordering programme are also consulted each week by a committee and extra copies are ordered of those which will be useful in servicing the needs of Member States and missions. A large amount of unsolicited material arrives each week at the Centre from all parts of the world and is treated in the same way. It should be noted that a large part of the annual budget of

the Centre is set aside for the purchase of documents for distribution. In its programme Unesco encourages the establishment of national documentation centres in education and these newly established centres are sent a good many publications which will be of interest to them and perhaps not otherwise available to them. After the new acquisitions are looked at there is a display of them which lasts for one week. Members of the Secretariat may come and look them over and attach notes to them asking to borrow them once they are catalogued.

The catalogue of the Centre is threefold, arranged primarily by author, but there are supplementary subject catalogues arranged by country, and country catalogues arranged by subject.

The readers who come to the Centre are mostly members of the Secretariat, experts about to go out on mission for Unesco, and Unesco fellows. Others come from associated Non-Governmental Organisations. Other readers are educationists, especially those who are interested in the study of comparative education. Some readers come from the public at large, but they usually have some form of introduction to Unesco. The Centre is not a public library in any sense, and, apart from the needs of the Secretariat and the affiliated associations, works on a governmental level.

Of course, many requests for information come in by mail. Replies are sent out to all letters. In some cases the enquirer is referred to his local public library or other body, but in most cases a full reply is given. Some requests come from extremely remote areas of the world and it would be a considerable waste of time to all concerned to write back to the enquirer asking him to refer his requests to the national body responsible for relations with Unesco.

In the field of publications, the Documentation Centre is directly responsible for the publication of Education Abstracts. This is a bibliographical review which appears monthly except for July and August. There are editions in English, French and Spanish. Each issue touches a different aspect of education and consists of a preface, a bibliographical introductory essay and an annotated bibliography. The groundwork for each issue is done by the Secretariat and the holdings of the Centre are used almost exclusively in the initial stages. The topics selected are known well in advance and the collection is augmented to meet these special needs. In some cases letters are written to the various national bodies responsible for Unesco affairs asking them to submit material. This is done when an issue has a world-wide coverage and treats some subject such as official reports in education. Occasionally an expert is asked to prepare an issue. In such an event the Secretariat prepares a preliminary bibliography as a basis for the study. The expert adds further material of his own, and, of course, works on contract for the particular issue. Three times a year an issue is devoted to a bibliographical consideration of the educational system of a particular country, and the entire issue is prepared by the

country in question.

Education Clearing House publishes a series entitled "Educational Studies and Documents". One number each year is devoted to a large scale bibliography on some branch of education, and the Centre is responsible for that number.

General information kept in the collection on the various education systems of the world is used as the basis for a publication called "World Survey of Education: a Handbook of Organisation and Statistics". This appears in slightly different form every three years. The different country chapters are written in the Clearing House before submission to the governments for correction and amendment. Each chapter contains a bibliography on the educational system, and in most cases these items are in the Centre's collection.

The Education Clearing House also publishes two other series: "Monographs on Fundamental Education" and "Problems in Education" for which the Centre corrects bibliographies and footnotes although there is usually no other active part than that.

The Centre issues an accessions list from time to time. Normally there are about ten issues a year, depending on the speed of cataloguing the new material, as the lists are made up from the catalogue cards.

From time to time book lists are prepared by the staff to meet a particular need. Normally these are not published, but they may be developed at a later date and annotated to form the basis of a number of Education Abstracts.

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"EDUCATION FOR INTERNATIONAL UNDERSTANDING"

A series of lectures arranged by Dr. J.L. Henderson of the University of London Institute of Education.

Lecture 1. "Education for International Understanding."
Speaker: Dr. James Hemming.

Lecture 2. "The Ideological Training of Soviet Functionaries."
Speaker: Wolfgang Leonhard.

Lecture 3. "The Opportunities and Obstacles of Scientific Discovery."
Speaker: Ritchie Calder, C.B.E.

Lecture 4. "The Opportunities and Obstacles of Belief."
Speaker: Richard Ward.

CHALLENGE - 1958

by

Mrs. T.R.H. Bristow

There was held recently at the Institute of Education a series of four lectures on "Education for International Understanding". These were an exciting series which began with a plea for an education for wholeness and ended with an injunction to live on a spiritual level of awareness and perception. The two middle lectures suggested the practical application of these ideas by the resulting mature person, in the contemporary world.

The first lecture by Dr. Hemming concentrated on education in the school. This should teach self acceptance and understanding and acceptance of others. The child should learn integration with the group free from isolation and fear, and a capacity to communicate with others. From this group relationship to a larger group must be made. The curriculum could turn the child's mind outwards towards international feeling. A feeling of excitement and involvement could be cultivated by the difference and variety of life in other countries. Basic facts and information about real problems of the day could help to encourage the adolescent towards a sense of responsibility. This could be a challenge and further interest stimulated by exchange visits, pen friends, school journeys, news boards and so on.

The second lecture, Mr. Leonhard's controlled but passionate exposition of his growing up and training as a Soviet functionary, made a vivid impression. The direction of energies towards an end greater than oneself made an impact emphasised by the small pin pricks of doubt which finally made him abandon Soviet communism. A maturing capacity for choice made and acted upon - this perhaps links this lecture with the first and last which philosophised on self-realisation and outward perception. Personal maturity is one of the major factors in international understanding. Mr. Leonhard made it very clear though that this was not enough. The whole conception of life in the West and the Soviet Union was completely different and the differences had to be seen and felt before understanding was possible. Then hope lay in the fact that our very problems were bringing us to a common ground. The problems of industry and technological development could become the platform for international understanding.

Mr. Ritchie Calder brought the question of science and industry back to the school and the child with discussion on the teaching of science and the teaching about science; teaching about science to the non-scientist and a liberal education for the specialist. He felt these both to be most important for the development of the individual child as a human being, and so that the scientist and the arts person had a means of communication and could maintain the services of living - the political machine or otherwise - with understanding and co-ordination.

Mr. Ward in the concluding lecture discussed the obstacles and opportunities of belief. He contended that religion qualitative with the head and mind of people is stronger than a century ago. He discussed the secular nature of moralism as opposed to the spiritual power of inspiring to things greater than oneself. The negative qualities in oneself should be recognised in order to reach compassionate understanding. This might deprive one of one's power of judgment but at the same time a sense of values could be wrought out from a basic understanding of human nature as discovered in oneself and related to other people, and man's spiritual nature in relation to God. The resultant awareness and perception made for understanding on a personal or an international level.

The four lectures made an integrated and stimulating course demonstrating that international understanding is both a personal and a general problem of wide issues involving economic development of the whole world. In the very problems lie the possibility of solution and therefore the challenge to our post-war generation.

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A catalogue of the book exhibition shown with these lectures may be obtained from the Librarian, Institute of Education, price 6d.

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SPECIAL REPORTS ON EDUCATIONAL SUBJECTS

Volume VI

(Volume V will be done in the next issue)

COTTERILL, C.C.

The masters of a preparatory school.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 14-26.

RITCHIE, F.

Preparatory school equipment.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 27-41.

STALLARD, H.F.

The time-table of work in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 43-60.

ROBINSON, G.G.

The preparatory school curriculum.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 61-78.

SADLER, M.E.

The place of the preparatory school for boys in secondary education in England.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 79-90.

LYTTELTON, E.

Entrance scholarships at public schools, and their influence on preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 91-105.

LYNAM, C.C.

Examinations for entrance scholarships at the public schools. Their character and effect on the educational work of preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 107-186.

WILLIAMS, C.E.

The teaching of Latin and Greek in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 187-197.

TILLARD, H.C.

The teaching of the mother-tongue in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 199-205.

ALLUM, C.G.

The teaching of mathematics in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 249-256.

CURTEIS, A.M.

The teaching of history in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 207-218.

VASSALL, A.

Natural science in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 257-265.

BURROWS, F.R.

The teaching of geography in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 219-228.

WATTS, J.T.

The teaching of drawing in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 267-277.

ARNOLD, E.P. and WARE, F.

The teaching of modern languages in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 229-247.

HINE, W.E.

Art teaching in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 279-297.

MANSFIELD, E.D.

The school workshop.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 299-304.

EARIE, W.

Music in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 305-309.

VENABLES, L.C.

Singing in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 311-319.

BARTHOLOMEW, A.C.

Gardening, its role in preparatory school life.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 321-325.

WICKHAM, C.T.

Health and physical training in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 327-342.

DOWDING, A.J.C.

Games in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 343-371.

ROWNTREE, A.

The employment of leisure hours in boys' boarding schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 373-386.

DOUGLAS, W.

Preparatory school libraries.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 387-391

DEALTRY, P.S.

A day in a boy's life at a preparatory school.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 393-396.

WILKINSON, J.H.

School management in preparatory schools.

In Board of Education. Special Reports on Educational Subjects, Vol. VI, 1900. pp. 397-412.

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